SEQUENCE LISTING

- (1) GENERAL INFORMATION
- (i) APPLICANT: Bandman, Olga Hillman, Jennifer L.

Lal, Preeti Corley, Neil C. Shah, Purvi

- (ii) TITLE OF THE INVENTION: HUMAN RETICULOCALBIN ISOFORMS
- (iii) NUMBER OF SEQUENCES: 6
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Incyte Pharmaceuticals, Inc.
 - (B) STREET: 3174 Porter Drive
 - (C) CITY: Palo Alto
 - (D) STATE: CA
 - (E) COUNTRY: USA
 - (F) ZIP: 94304
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Diskette
 - (B) COMPUTER: IBM Compatible
 - (C) OPERATING SYSTEM: DOS
 - (D) SOFTWARE: FastSEQ for Windows Version 2.0
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: To Be Assigned
 - (B) FILING DATE: Hereewith
 - (C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER:
 - (B) FILING DATE:
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Billings, Lucy J.
 - (B) REGISTRATION NUMBER: 36,749
 - (C) REFERENCE/DOCKET NUMBER: PF-0358 US
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: 650-855-0555
 - (B) TELEFAX: 650-845-4166
 - (C) TELEX:
 - (2) INFORMATION FOR SEQ ID NO:1:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 328 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (vii) IMMEDIATE SOURCE:
 - (A) LIBRARY: RATRNOT02
 - (B) CLONE: 922578

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Met Met Trp Arg Pro Ser Val Leu Leu Leu Leu Leu Leu Leu Arg His Gly Ala Gln Gly Lys Pro Ser Pro Asp Ala Gly Pro His Gly Gln Gly 25 20 Arg Val His Gln Ala Ala Pro Leu Ser Asp Ala Pro His Asp Asp Ala 40 His Gly Asn Phe Gln Tyr Asp His Glu Ala Phe Leu Gly Arg Glu Val 55 60 Ala Lys Glu Phe Asp Gln Leu Thr Pro Glu Glu Ser Gln Ala Arg Leu 70 75 Gly Arg Ile Val Asp Arg Met Asp Arg Ala Gly Asp Gly Asp Gly Trp 90 Val Ser Leu Ala Glu Leu Arg Ala Trp Ile Ala His Thr Gln Gln Arg 100 105 110 His Ile Arg Asp Ser Val Ser Ala Ala Trp Asp Thr Tyr Asp Thr Asp 115 120 125 Arg Asp Gly Arg Val Gly Trp Glu Glu Leu Arg Asn Ala Thr Tyr Gly 135 140 His Tyr Ala Pro Gly Glu Glu Phe His Asp Val Glu Asp Ala Glu Thr 150 155 Tyr Lys Lys Met Leu Ala Arg Asp Glu Arg Arg Phe Arg Val Ala Asp 170 Gln Asp Gly Asp Ser Met Ala Thr Arg Glu Glu Leu Thr Ala Phe Leu 180 185 190 His Pro Glu Glu Phe Pro His Met Arg Asp Ile Val Ile Ala Glu Thr 200 Leu Glu Asp Leu Asp Arg Asn Lys Asp Gly Tyr Val Gln Val Glu Glu 215 220 Tyr Ile Ala Asp Leu Tyr Ser Ala Glu Pro Gly Glu Glu Pro Ala 230 235 Trp Val Gln Thr Glu Arg Gln Gln Phe Arg Asp Phe Arg Asp Leu Asn 250 245 Lys Asp Gly His Leu Asp Gly Ser Glu Val Gly His Trp Val Leu Pro 270 260 265 Pro Ala Gln Asp Gln Pro Leu Val Glu Ala Asn His Leu Leu His Glu 275 280 Ser Asp Thr Asp Lys Asp Gly Arg Leu Ser Lys Ala Glu Ile Leu Gly 295 300 Asn Trp Asn Met Phe Val Gly Ser Gln Ala Thr Asn Tyr Gly Glu Asp 315 310 Leu Thr Arg His His Asp Glu Leu 325

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 1463 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (vii) IMMEDIATE SOURCE:
 - (A) LIBRARY: RATRNOT02
 - (B) CLONE: 922578
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

CGCAGAGCGG ACGTGGAGAG CGGACGNCAG CTGGATAACA GGGGACCGAT GATGTGGCGA CCATCAGTTC TGCTGCTTCT GTTGCTACTG AGGCACGGGG CCCAGGGGAA GCCATCCCCA

GACGCAGGCC	CTCATGGCCA	GGGGAGGGTG	CACCAGGCGG	CCCCCTGAG	CGACGCTCCC	180
CATGATGACG	CCCACGGGAA	CTTCCAGTAC	GACCATGAGG	${\tt CTTTCCTGGG}$	ACGGGAAGTG	240
GCCAAGGAAT	TCGACCAACT	CACCCCAGAG	GAAAGCCAGG	CCCGTCTGGG	GCGGATCGTG	300
GACCGCATGG	ACCGCGCGGG	GGACGGCGAC	GGCTGGGTGT	CGCTGGCCGA	GCTTCGCGCG	360
TGGATCGCGC	ACACGCAGCA	GCGGCACATA	CGGGACTCGG	TGAGCGCGGC	CTGGGACACG	420
TACGACACGG	ACCGCGACGG	GCGTGTGGGT	TGGGAGGAGC	TGCGCAACGC	CACCTATGGC	480
CACTACGCGC	CCGGTGAAGA	ATTTCATGAC	GTGGAGGATG	CAGAGACCTA	CAAAAAGATG	540
CTGGCTCGGG	ACGAGCGGCG	TTTCCGGGTG	GCCGACCAGG	ATGGGGACTC	GATGGCCACT	600
CGAGAGGAGC	TGACAGCCTT	CCTGCACCCC	GAGGAGTTCC	CTCACATGCG	GGACATCGTG	660
ATTGCTGAAA	CCCTGGAGGA	CCTGGACAGA	AACAAAGATG	GCTATGTCCA	GGTGGAGGAG	720
TACATCGCGG	ATCTGTACTC	AGCCGAGCCT	GGGGAGGAGG	AGCCGGCGTG	GGTGCAGACG	780
GAGAGGCAGC	AGTTCCGGGA	CTTCCGGGAT	CTGAACAAGG	ATGGGCACCT	GGATGGGAGT	840
GAGGTGGGCC	ACTGGGTGCT	GCCCCCTGCC	CAGGACCAGC	CCCTGGTGGA	AGCCAACCAC	900
CTGCTGCACG	AGAGCGACAC	GGACAAGGAT	GGGCGGCTGA	GCAAAGCGGA	AATCCTGGGT	960
AATTGGAACA	TGTTTGTGGG	CAGTCAGGCC	ACCAACTATG	GCGAGGACCT	GACCCGGCAC	1020
CACGATGAGC	TGTGAGCACC	GCGCACCTGC	CACAGCCTCA	GAGGCCCGCA	CAATGACCGG	1080
AGGAGGGCC	GCTGTGGTCT	GGCCCCCTCC	CTGTCCAGGC	CCCGCAGGAG	GCAGATGCAG	1140
TCCCAGGCAT	CCTCCTGCCC	CTGGGCTCTC	AGGGACCCCC	TGGGTCGGCT	TCTGTCCCTG	1200
TCACACCCCC	AACCCCAGGG	AGGGGCTGTC	ATAGTCCCAG	AGGATAAGCA	ATACCTATTT	1260
CTGACTGAGT	CTCCCAGCCC	AGACCCAGGG	ACCCTTGGCC	CCAAGCTCAG	CTCTAAGAAC	1320
CGCCCCAACC	CCTCCAGCTC	CAAATCTGAG	CCTCCACCAC	ATAGACTGAA	ACTCCCCTGG	1380
CCCCAGCCCT	CTCCTGCCTG	GCCTGGCCTG	GGACACCTCC	TCTCTGCCAG	GAGGCAATAA	1440
AAGCCAGCGC	CGGGAAAAAA	AAA				1463

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 315 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (vii) IMMEDIATE SOURCE:
 - (A) LIBRARY: BLADNOT03 (B) CLONE: 1601793

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Met 1	Asp	Leu	Arg	Gln 5	Phe	Leu	Met	Суѕ	Leu 10	Ser	Leu	Суѕ	Thr	Ala 15	Phe
Ala	Leu	Ser	Lys 20	Pro	Thr	Glu	Lys	Lys 25	Asp	Arg	Val	His	His 30	Glu	Pro
Gln	Leu	Ser 35	Asp	Lys	Val	His	Asn 40	Asp	Ala	Gln	Ser	Phe 45	Asp	Tyr	Asp
His	Asp 50	Ala	Phe	Leu	Gly	Ala 55	Glu	Glu	Ala	Lys	Thr 60	Phe	Asp	Gln	Leu
Thr 65	Pro	Glu	Glu	Ser	Lys 70	Glu	Arg	Leu	Gly	Lys 75	Ile	Val	Ser	Lys	Ile 80
Asp	Gly	Asp	Lys	Asp 85	Gly	Phe	Val	Thr	Val 90	Asp	Glu	Leu	Lys	Asp 95	Trp
Ile	Lys	Phe	Ala 100	Gln	Lys	Arg	Trp	Ile 105	Tyr	Glu	Asp	Val	Glu 110	Arg	Gln
Trp	Lys	Gly 115	His	Asp	Leu	Asn	Glu 120	Asp	Gly	Leu	Val	Ser 125	Trp	Glu	Glu
Tyr	Lys 130	Asn	Ala	Thr	Tyr	Gly 135	Tyr	Val	Leu	Asp	Asp 140	Pro	Asp	Pro	Asp
Asp 145	Gly	Phe	Asn	Tyr	Lys 150	Gln	Met	Met	Val	Arg 155	Asp	Glu	Arg	Arg	Phe 160
Lys	Met	Ala	Asp	Lys 165	Asp	Gly	Asp	Leu	Ile 170	Ala	Thr	Lys	Glu	Glu 175	Phe



Thr Ala Phe Leu His Pro Glu Glu Tyr Asp Tyr Met Lys Asp Ile Val 180 185 190 Val Gln Glu Thr Met Glu Asp Ile Asp Lys Asn Ala Asp Gly Phe Ile 205 195 200 Asp Leu Glu Glu Tyr Ile Gly Asp Met Tyr Ser His Asp Gly Asn Thr 215 220 Asp Glu Pro Glu Trp Val Lys Thr Glu Arg Glu Gln Phe Val Glu Phe 230 235 Arg Asp Lys Asn Arg Asp Gly Lys Met Asp Lys Glu Glu Thr Lys Asp 250 255 245 Trp Ile Leu Pro Ser Asp Tyr Asp His Ala Glu Ala Glu Ala Arg His 260 265 270 Leu Val Tyr Glu Ser Asp Gln Asn Lys Asp Gly Lys Leu Thr Lys Glu 275 280 285 Glu Ile Val Asp Lys Tyr Asp Leu Phe Val Gly Ser Gln Ala Thr Asp 295 300 Phe Gly Glu Ala Leu Val Arg His Asp Glu Phe 310

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 2658 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (vii) IMMEDIATE SOURCE:
 - (A) LIBRARY: BLADNOT03
 - (B) CLONE: 1601793

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

CCCGCTTCCG	GTTGGGCGGT	GCTTGCGCGC	GTGAGCTGAG	CCGGTGGGTG	AGCGGCGGCC	60
ACGGCATCCT	GTGCTGTGGG	GGCTACGAGG	AAAGATCTAA	TTATCATGGA	CCTGCGACAG	120
TTTCTTATGT	GCCTGTCCCT	GTGCACAGCC	TTTGCCTTGA	GCAAACCCAC	AGAAAAGAAG	180
GACCGTGTAC	ATCATGAGCC	TCAGCTCAGT	GACAAGGTTC	ACAATGATGC	TCAGAGTTTT	240
GATTATGACC	ATGATGCCTT	CTTGGGTGCT	GAAGAAGCAA	AGACCTTTGA	TCAGCTGACA	300
CCAGAAGAGA	GCAAGGAAAG	GCTTGGAAAG	ATTGTAAGTA	AAATAGATGG	CGACAAGGAC	360
GGGTTTGTCA	CTGTGGATGA	GCTCAAAGAC	TGGATTAAAT	TTGCACAAAA	GCGCTGGATT	420
TACGAGGATG	TAGAGCGACA	GTGGAAGGGG	CATGACCTCA	ATGAGGACGG	CCTCGTTTCC	480
TGGGAGGAGT	ATAAAAATGC	CACCTACGGC	TACGTTTTAG	ATGATCCAGA	TCCTGATGAT	540
GGATTTAACT	ATAAACAGAT	GATGGTTAGA	GATGAGCGGA	GGTTTAAAAT	GGCAGACAAG	600
GATGGAGACC	TCATTGCCAC	CAAGGAGGAG	TTCACAGCTT	TCCTGCACCC	TGAGGAGTAT	660
GACTACATGA	AAGATATAGT	AGTACAGGAA	ACAATGGAAG	ATATAGATAA	GAATGCTGAT	720
GGTTTCATTG	ATCTAGAAGA	GTATATTGGT	GACATGTACA	GCCATGATGG	GAATACTGAT	780
GAGCCAGAAT	GGGTAAAGAC	AGAGCGAGAG	CAGTTTGTTG	AGTTTCGGGA	TAAGAACCGT	840
GATGGGAAGA	TGGACAAGGA	AGAGACCAAA	GACTGGATCC	TTCCCTCAGA	CTATGATCAT	900
GCAGAGGCAG	AAGCCAGGCA	CCTGGTCTAT	GAATCAGACC	AAAACAAGGA	TGGCAAGCTT	960
ACCAAGGAGG	AGATCGTTGA	CAAGTATGAC	TTATTTGTTG	GCAGCCAGGC	CACAGATTTT	1020
GGGGAGGCCT	TAGTACGGCA	TGATGAGTTC	TGAGCTACGG	AGGAACCCTC	ATTTCCTCAA	1080
AAGTAATTTA	TTTTTACAGC	TTCTGGTTTC	ACATGAAATT	GTTTGCGCTA	CTGAGACTGT	1140
TACTACAAAC	TTTTTAAGAC	ATGAAAAGGC	GTAATGAAAA	CCATCCCGTC	CCCATTCCTC	1200
CTCCTCTCTG	AGGGACTGGA	GGGAAGCCGT	GCTTCTGAGG	AACAACTCTA	ATTAGTACAC	1260
TTGTGTTTGT	AGATTTACAC	TTTGTATTAT	GTATTAACAT	GGCGTGTTTA	TTTTTGTATT	1320
TTTCTCTGGT	TGGGAGTATG	ATATGAAGGA	TCAAGATCCT	CAACTCACAC	ATGTAGACAA	1380
ACATTAGCTC	TTTACTCTTT	CTCAACCCCT	TTTATGATTT	TAATAATTCT	CACTTAACTA	1440
ATTTTGTAAG	CCTGAGATCA	ATAAGAAATG	TTCAGGAGAG	AGGAAAGAAA	AAAAATATAT	1500
GCTCCACAAT	TTATATTTAG	AGAGAGAACA	CTTAGTCTTG	CCTGTCAAAA	AGTCCAACAT	1560
TTCATAGGTA	GTAGGGGCCA	CATATTACAT	TCAGTTGCTA	TAGGTCCAGC	AACTGAACCT	1620
GCCATTACCT	GGGCAAGGAA	AGATCCCTTT	GCTCTAGGAA	AGCTTGGCCC	AAATTGATTT	1680



TCTTCTTTTT	CCCCCTGTAG	GACTGACTGT	TGGCTAATTT	TGTCAAGCAC	AGCTGTGGTG	1740
GGAAGAGTTA	GGGCCAGTGT	CTTGAAAATC	AATCAAGTAG	TGAATGTGAT	CTCTTTGCAG	1800
AGCTATAGAT	AGAAACAGCT	GGAAAACTAA	AGGAAAAATA	CAAATGTTTT	CGGGGCATAC	1860
ATTTTTTTC	TGGGTGTGCA	TCTGTTGAAA	TGCTCAAGAC	TTAATTATTT	GCCTTTTGAA	1920
ATCACTGTAA	ATGCCCCCAT	CCGGTTCCTC	TTCTTCCCAG	GTGTGCCAAG	GAATTAATCT	1980
TGGTTTCACT	ACAATTAAAA	TTCACTCCTT	TCCAATCATG	TCATTGAAAG	TGCCTTTAAC	2040
GAAAGAAATG	GTCACTGAAT	GGGAATTCTC	TTAAGAAACC	CTGAGATTAA	AAAAAGACTA	2100
TTTGGATAAC	TTATAGGAAA	GCCTAGAACC	TCCCAGTAGA	GTGGGGATTT	TTTTCTTCTT	2160
CCCTTTCTCT	TTTGGACAAT	AGTTAAATTA	GCAGTATTAG	TTATGAGTTT	GGTTGCAGTG	2220
TTCTTATCTT	GTGGGCTGAT	TTCCAAAAAC	CACATGCTGC	TGAATTTACC	AGGGATCCTC	2280
ATACCTCACA	ATGCAAACCA	CTTACTACCA	GGCCTTTTTC	TGTGTCCACT	GGAGAGCTTG	2340
AGCTCACACT	CAAAGATCAG	AGGACCTACA	GAGAGGGCTC	TTTGGTTTGA	GGACCATGGC	2400
TTACCTTTCC	TGCCTTTGAC	CCATCACACC	CCATTTCCTC	CTCTTTCCCT	CTCCCCGCTG	2460
CCAAAAAAAA	AAAAAAAGGA	AACGTTTATC	ATGAATCAAC	AGGGTTTCAG	TCCTTATCAA	2520
AGAGAGATGT	GGAAAGAGCT	AAAGAAACCA	CCCTTTGTTC	CCAACTCCAC	TTTACCCATA	2580
TTTTATGCAA	CACAAACACT	GTCCTTTTGG	GTCCCTTTCT	TACAGATGGG	ACCTCTTGAG	2640
GAAGGAATTA	TCGTATTC					2658

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 331 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(vii) IMMEDIATE SOURCE:

- (A) LIBRARY: GenBank
- (B) CLONE: 1262329

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Met 1	Ala	Arg	Gly	Gly 5	Arg	Gly	Arg	Arg	Leu 10	Gly	Leu	Ala	Leu	Gly 15	Leu
Leu	Leu	Ala	Leu 20	Val	Leu	Ala	Pro	Arg 25	Val	Leu	Arg	Ala	Lys 30	Pro	Thr
Val	Arg	Lys 35	Glu	Arg	Val	Val	Arg 40	Pro	Asp	Ser	Glu	Leu 45	Gly	Glu	Arg
Pro	Pro 50	Glu	Asp	Asn	Gln	Ser 55	Phe	Gln	Tyr	Asp	His 60	Glu	Ala	Phe	Leu
Gly 65	Lys	Glu	Asp	Ser	Lys 70	Thr	Phe	Asp	Gln	Leu 75	Thr	Pro	Asp	Glu	Ser 80
Lys	Glu	Arg	Leu	Gly 85	Lys	Ile	Val	Asp	Arg 90	Ile	Asp	Asn	Asp	Gly 95	Asp
Gly	Phe	Val	Thr 100	Thr	Glu	Glu	Leu	Lys 105	Thr	Trp	Ile	Lys	Arg 110	Val	Gln
Lys	Arg	Tyr 115	Ile	Phe	Asp	Asn	Val 120	Ala	Lys	Val	Trp	Lys 125	Asp	Tyr	Asp
Arg	Asp 130	Lys	Asp	Asp	Lys	Ile 135	Ser	Trp	Glu	Glu	Tyr 140	Lys	Gln	Ala	Thr
Tyr 145	Gly	Tyr	Tyr	Leu	Gly 150	Asn	Pro	Ala	Glu	Phe 155	His	Asp	Ser	Ser	Asp 160
His	His	Thr	Phe	Lys 165	Lys	Met	Leu	Pro	Arg 170	Asp	Glu	Arg	Arg	Phe 175	Lys
Ala	Ala	Asp	Leu 180	Asn	Gly	Asp	Leu	Thr 185	Ala	Thr	Arg	Glu	Glu 190	Phe	Thr
Ala	Phe	Leu 195	His	Pro	Glu	Glu	Phe 200	Glu	His	Met	Lys	Glu 205	Ile	Val	Val
Leu	Glu 210	Thr	Leu	Glu	Asp	Ile 215	Asp	Lys	Asn	Gly	Asp 220	Gly	Phe	Val	Asp



Gln Asp Glu Tyr Ile Ala Asp Met Phe Ser His Glu Glu Asn Gly Pro 230 235 Glu Pro Asp Trp Val Leu Ser Glu Arg Glu Gln Phe Asn Glu Phe Arg 245 250 Asp Leu Asn Lys Asp Gly Lys Leu Asp Lys Asp Glu Ile Arg His Trp 260 265 270 Ile Leu Pro Gln Asp Tyr Asp His Ala Gln Ala Glu Ala Arg His Leu 280 285 Val Tyr Glu Ser Asp Lys Asn Lys Asp Glu Lys Leu Thr Lys Glu Glu 295 300 Ile Leu Glu Asn Trp Asn Met Phe Val Gly Ser Gln Ala Thr Asn Tyr 310 315 Gly Glu Asp Leu Thr Lys Asn His Asp Glu Leu

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 98 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (vii) IMMEDIATE SOURCE:
 - (A) LIBRARY: GenBank
 - (B) CLONE: 780361
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Arg Arg Asp Val Ala Lys Glu Phe Asp Gln Leu Thr Pro Glu Glu Ser 5 10 Gln Ala Arg Leu Gly Arg Ile Val Asp Arg Met Asp Leu Ala Gly Asp 20 25 Ser Asp Gly Trp Val Ser Leu Ala Ala Leu Arg Ala Trp Ile Ala His 40 45 Thr Gln Gln Arg His Ile Arg Asp Ser Val Ser Ala Ala Trp His Thr 60 Tyr Asp Thr Asp Arg Asp Gly Arg Val Gly Trp Glu Glu Leu Arg Asn 70 75 Ala Thr Tyr Gly His Tyr Glu Pro Gly Glu Glu Phe His Asp Val Glu 90 Gly Pro